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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,569	12/07/2000	Karlheinz Wienand	927-37U1	6234

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2005 MARKET STREET, SUITE 2200  
PHILADELPHIA, PA 19103-7013

EXAMINER

AHMED. SHAMIM

ART UNIT	PAPER NUMBER
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1765

6

DATE MAILED: 05/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/731,569

Applicant(s)

WIENAND ET AL.

Examiner

Shamim Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/396,186.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 23-28 have been considered but are moot upon cancellation of the claims and a new ground(s) of rejection is set fourth as below.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 29-30 and 33-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Liddiard (4,574,263).

Liddiard discloses a detector which is a type of a resistor (col.1, lines 14-15) and a process of making the detector, wherein an insulated metal substrate is etched from the rear surface of the substrate to form holes or recess pattern through a photographic artwork (col.2, lines 43-66, col.3, lines 1-5, lines 25-43 and figure 4).

Liddiard discloses that the substrate having thin film contacts (8), which is considered as the conductor path (col.2, lines 33-36).

Liddiard also discloses that a wet etching is performed until a metal etching stop layer is reached (col.3, lines 6-11 and figure 5).

Liddiard further discloses that metal film masks are used for etching the substrate to make holes, wherein the metals of titanium or platinum or combination thereof can be

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used as the metal masks or etching stop layer and also for the purpose of uses as a diffusion barrier layer (col.3, lines 44-54).

As to claim 30, Liddiard inherently teaches that the etching process from the back side of the substrate with the etching stop layer imparts a low thermal mass to the resistor or the detector because all the process constituent are similar as the instant invention.

As to claim 33, Liddiard teaches that etch stop layer is applied by means of high vacuum thermal evaporation or CVD process (col.4, lines 58-63).

As to claim 34, Liddiard teaches that the electrically insulation surface comprises silicon nitride, aluminum oxide (col.4, lines 38-42).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liddiard (4,574,263) as applied to claims 29-30, 33-34 above, and further in view of Osborne et al (4,436,593).

Liddiard discussed above in the paragraph 3 and broadly teaches the substrate can be etched using appropriate wet etchant (col.3, lines 6-11).

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Liddiard fails to teach that the etching is performed by spray etching with ferric chloride.

However, in a method of etching metal such as iron-nickel alloy, Osborne et al teach that ferric chloride is used to etch efficiently and selectively with an etch-stop (col.2, lines 30-36).

Therefore, it would have been obvious to one skilled in the art at the time of claimed invention to combine Osborne et al's teaching into Liddiard's method for selectively and efficiently etching the metal substrate as taught by Osborne et al.

6. Claims 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liddiard (4,574,263).

Liddiard discloses above in the paragraph 3 but does not disclose the thickness of the etch stop layer in a range of about 0.1 to 0.6 micrometer.

As to claim 32, it would have been obvious to employ the membrane or etch stop layer in the metal substrate embodiment at any thickness where Liddiard discloses thickness less than .05 micrometers for controlling the heat capacity of a heat sensitive layer (see claim 15) for the purpose of stopping an etchant or for forming the conductive layer or for controlling the heat capacity as suggested by Liddiard.

As to claim 35, Liddiard discloses that the insulation layer is extremely thin for higher thermal resistance (col.5, lines 30-35) but fail to disclose the thickness of about 0.5 to 10 micrometer.

Therefore, it would have been obvious to one skilled in the art at the time of claimed invention to optimize the same, since it has been held that discovering the

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optimum value of a result effective variable involves only routine skill in the art. *In re*

*Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980)

7. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liddiard (4,574,263) as applied to claims 29-30, 33-34 above, and further in view of Schultz et al (5,053,740).

Liddiard discussed above in the paragraph 3 except the type of metal substrate used.

However, Schultz et al disclose a variety of stainless steel substrate (12) for the purpose of providing corrosion resistance (col. 2, lines 65-col.3, line 30).

While the composition of the stainless steel is not specifically disclosed, the alloys claimed are well known standard material, it would have been obvious to one skilled in the art to employ any commercially available standard metal for the purpose of obtaining a readily available material having corrosion resistance, where Liddiard discloses employing a metal.

### **Conclusion**

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

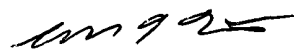
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (703) 305-1929. The examiner can normally be reached on M-Thu (7:00-5:30) Every Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech can be reached on (703) 308-3836. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Shamim Ahmed  
Examiner  
Art Unit 1765

SA  
May 7, 2003

  
BENJAMIN L. UTECH  
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